APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,877	09/29/2003	Michael A. Rothman	42P17241	6774

7590   06/05/2006

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EXAMINER
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ART UNIT	PAPER NUMBER
2191	

DATE MAILED: 06/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/675,877	ROTHMAN ET AL.
	Examiner	Art Unit	
	Ted T. Vo	2191	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>29 September 2003</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-26</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-26</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>29 September 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   This action is in response to the communication filed on 09/29/2003.

Claims 1-26 are pending in the application.

Specification

2.   This specification is objected to.

The paragraph given in p. 1: 5-8 requires having a statement in the manner in accordance to CFR § 1.57, "Incorporation by reference".

Hyperlinks or forms of browser executable code are in the specification. For example, see specification, http://developer.intel.com, www.acpi.info, etc. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

The use of the trademark such as Intel Pentium, Microsoft Windows or Apple Macintosh has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

(Capitalize each letter of the word in the bracket or include a proper trademark symbol,

such as ™ or © following the word).

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Rejections - 35 USC § 101

3.   35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4.   The claims 11-19 are rejected under 35 U.S.C 101 because the claimed invention is directed to non-statutory subject matter.

As per claims 11-19: A claim is statutory if it meets practical, concrete, and tangible result.

In the claims

Claims 11-19 fail to meet such a requirement.

Analysis: Claims 11-19, as a whole, recite **an article of a manufacture comprising a machine-readable medium** that is included with executable instructions.

However, in the specification, the medium recited in the claims includes a form of energy (see spec: p. 21: "include propagated signals such as electrical, optical, acoustical or other form of propagated signals (e.g., carrier waves, infrared signals, digital signals, etc.)" that is non-statutory subject matter and rejected under 35 U.S.C. 101.

Claims that recite nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism, per se, and as such **are nonstatutory natural phenomena**. O 'Reilly v. Morse, 56 U.S. (15 How.) 62, 112-14 (1853). However, a signal claim directed to a practical application of electromagnetic energy is statutory regardless of its transitory nature. See O 'Reilly, 56 U.S. at 114-19; In re Breslow, 616 F.2d 516, 519-21, 205 USPQ 221, 225-26 (CCPA 1980).

It requires amending the claims that exclude the nonstatutory subject matters.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for

the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6.   Claim 1-6, 8-12, 14-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Wetmore et

al., US. PAT. No. 5,481,713.

Given the broadest reasonable interpretation of followed claims in light of the specification.

As per Claim 1: Wetmore et al discloses, *A method, comprising:*

copying an optimized library into a user space of a computer system, the optimized library including an

optimized function for the computer system (See Fig. 7a, Second ROM version: *optimized library*, See

col.5: 51-57: updated routine/RAM: *optimized library/user space*);

and exporting an entry point for the optimized function to be available to an application executing on the

computer system. (See col. 5: 10-57: vector table/table pointer: *entry point*, Examiner note: according to

this reference, table pointer has "entry point" that points to an updated routine in area 307).

As per Claim 2: Wetmore et al discloses, *The method of claim 1, further comprising initializing a user*

library bound to the application, the user library to initiate the copying of the optimized library., See Fig. 5

and associated text in col. 6-7.

As per Claim 3: Wetmore et al discloses, *The method of claim 1, further comprising making a call to the*

optimized function by the application to initiate execution of the optimized function., because, according to

this reference, an initiated execution that call the ROM routine will be redirected to the updated routine by

the table entry.

As per Claim 4: Wetmore et al discloses, *The method of claim 1 wherein exporting the entry point comprises exporting a memory address of the optimized function to a data structure associated with the application.* See table 1 or table 2 in col. 7-8.

As per Claim 5: Wetmore et al discloses, *The method of claim 1, further comprising allocating a buffer in user space to receive the optimized library when copied into the user space.* See Fig. 3, table pointer points to an updated routine.

As per Claim 6: Wetmore et al discloses, *The method of claim 1, further comprising validating the optimized library before copying the optimized library into the user space.,* because it appears the patched code, or vector table source file is compiled (col. 10:1-5).

As per Claim 8: Wetmore et al discloses, *The method of claim 1, further comprising advertising the optimized library by firmware of the computer system during operating system runtime.* See Fig. 3.

As per Claim 9: Wetmore et al discloses, *The method of claim 1 wherein the plurality of optimized functions include code to optimize at least one operation of at least one hardware device of the computer system.* Refer to "patched code" and functions used by ROM code. It appears that ROM code is used in an initialization process in Fig. 1, i.e. its initialization is associated with at least one hardware device.

As per Claim 10: Wetmore et al discloses, *The method of claim 9 wherein the at least one hardware device includes a Central Processing Unit (CPU) of the computer system.* Refer to "patched code" and functions used by ROM code.

As per Claim 11: Wetmore et al discloses,

An article of manufacture comprising: a machine-readable medium including a plurality of instructions which when executed perform operations comprising:

receiving a first request at a user library from an application executing on a computer system to initialize the user library; copying an optimized library into a user space of a computer system in response to a second request by the user library, the optimized library including an optimized function for a hardware device of the computer system; and initiating a third request to initialize the optimized library to export an entry point of the optimized function to a data structure associated with the application.

The functionality of this claim is corresponding to limitation recited in the method of Claim 1. See rationale discussed in Claim 1 above.

As per Claim 12: Wetmore et al discloses, *The article of manufacture of claim 11 wherein execution of the plurality of instructions further perform operations comprising returning a failure indicator by the user library to the application if the initialization of the user library failed* (See Col. 8:1-16).

As per Claim 14: Wetmore et al discloses, *The article of manufacture of claim 11 wherein execution of the plurality of instructions further perform operations comprising allocating a buffer in user space to receive the optimized library when copied into the user space* (See FIG. 3, RAM Code 302).

As per Claim 15: Wetmore et al discloses, *The article of manufacture of claim 11 wherein the at least one hardware device includes a Central Processing Unit (CPU) of the computer system* (Note: Claim is in the boundary of *article of manufacture* – Thurston discloses a computer).

As per Claim 16: Wetmore et al discloses, *The article of manufacture of claim 11 wherein execution of the plurality of instructions further perform operations comprising generating the data structure for the application, the data structure to include a memory address corresponding to the optimized function.* (See FIG. 3).

As per Claim 17: Wetmore et al discloses, *The article of manufacture of claim 16 wherein exporting the entry point of the optimized function comprises entering a memory address of the optimized function in the data structure.* (See FIG. 3).

As per Claim 18: Wetmore et al discloses, *The article of manufacture of claim 11 wherein execution of the plurality of instructions further perform operations comprising exporting an entry point of a non-optimized function to the data structure in place of the entry point of the optimized function if an error occurs while exporting the entry point of the optimized function.* (See Col. 8:1-16).

As per Claim 19: Wetmore et al discloses, *The article of manufacture of claim 11 wherein execution of the plurality of instructions further perform operations comprising generating a second data structure to register a function of the user library for use by the optimized library.* (See FIG 3., table pointer has address when executed will point to the code in area 307).

As per Claim 20: Regarding, *A computer system, comprising: a processor; and a storage device coupled to the processor, the storage device including instructions which when executed by the processor perform operations comprising: recognizing an optimized library advertised by firmware of the computer system, the optimized library including a plurality of optimized functions for at least one hardware device of the computer system; copying the optimized library into a user space of the computer system; and exporting a plurality of entry points corresponding to the plurality of optimized functions to the computer system.* Wetmore et al discloses a system that recognizing an optimized function in the area 307 of the RAM. When this RAM code is copied into this area, Wetmore provides a plurality of table pointers to point to the RAM code. Furthermore, the functionality of this claim is corresponding to limitation recited in the method of Claim 1. See rationale discussed in Claim 1 above.

As per Claim 21: Regarding, *The computer system of claim 20 wherein the optimized library is stored in firmware of the computer system.* See Fig. 3

As per Claim 22: Regarding, *The computer system of claim 20 wherein the optimized library is stored on a hard disk accessible to the computer system* (See Fig. 3, where the RAM can be compatible to a hard disk).

As per Claim 23: Regarding, *The computer system of claim 20 wherein execution of the instructions further perform operations comprising validating the optimized library before copying the optimized library into the user space.,* the RAM shown in Fig. 3 of Wetmore is executable, thus is validated.

As per Claim 24: Regarding, *The computer system of claim 20 wherein the firmware to operate in accordance with an Extensible Firmware Interface (EFI) framework standard.,* the method that extends the ROM code shown by Wetmore has means Extensible Firmware Interface.

As per Claim 25: Regarding, *The computer system of claim 20 wherein the at least one hardware device includes a Central Processing Unit (CPU) of the computer system.,* the system shown in Wetmore has a CPU.

As per Claim 26: Regarding, *The computer system of claim 20 wherein exporting the plurality of entry points comprises providing a plurality memory addresses corresponding to the plurality of optimized functions to a data structure associated with the application.* See Fig 3.

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8.   Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wetmore US. PAT. No.

5,481,713.

As per claim 7: In a process of copy optimized function into a RAM code area, Wetmore et al discloses

an exporting an entry point for the optimized function to be available to an application executing on the

computer system. (See col. 5: 10-57: vector table/table pointer: *entry point*).

Wetmore does not disclose the optimized function "*optimized library*" is validated by verifying a signature

of the optimized library.

Official notice is taken that using signature to verify a signed document is common in the art for security

purpose. It has been used as a standard for data security subject mater. Therefore, it would have been

obvious to a person of ordinary skill in the art at to use signature for validating a signed file since it is

standard in data security known as cryptography.

9.   Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wetmore, US. PAT. No.

5,481,713, in view of Thurston et al., US Pub No. 2003/0217193 A1.

As per claim 13: In a process of copy optimized function into a RAM code area, Wetmore et al discloses

a computer readable medium having the code for exporting an entry point for the optimized function to be

available to an application executing on the computer system. (See col. 5: 10-57: vector table/table

pointer: *entry point*).

Wetmore does not disclose the API.

Thurston discloses API used in order to enter firmware in a user space (See Thurston: FIG.3). Since

using API is very common and becomes a standard when used to interface to an application library.

Therefore, it would have been obvious to a person of ordinary skill in the art at to use API as of Thurston's

to manipulate code.

Conclusion

10.   Any inquiry concerning this communication or earlier communications from the examiner should

be directed to Ted T. Vo whose telephone number is (571) 272-3706. The examiner can normally be

reached on 8:00AM to 4:30PM.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wei

Y. Zhen can be reached on (571) 272-3708.

        The facsimile number for the organization where this application or proceeding is assigned is the

Central Facsimile number **571-273-8300**.

        Any inquiry of a general nature or relating to the status of this application should be directed to

the TC 2100 Group receptionist: 571-272-2100. Information regarding the status of an application may

be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR. Status information for

unpublished applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ted T. Vo
Primary Examiner
Art Unit 2191
May 25, 2006